Measuring Māori labour market intervention needs

A picture beyond HLFS

Report to Te Pūtahitanga o Te Waipounamu

19 May 2021

SENSE PARTNERS
DATA LOGIC ACTION

Key points

The official measure of labour market conditions is the Household Labour Force Survey (HLFS). However, there is often misunderstanding of the concepts of the official measures and their accuracy (sampling errors). For example, officially unemployed are not comparable to the 'jobless' who require policy support.

The COVID-19 pandemic has led to significant labour market dislocation in some industries, occupations, and locations, even though the level of employment has remained encouragingly strong. Those unfortunate to lose jobs or who are unable to find new work may find the pandemic has an impact on their career and income for up to a decade. Our analysis shows that the official survey may be overestimating employment growth and underestimating joblessness for Māori in the South Island and some provinces.

The official HLFS data is a useful and internationally comparable benchmark, but there are practical limitations and cautions in how it should be used:

- The unemployment rate, the most cited metric, is designed to measure ready supply of employable labour by businesses. It does not accurately measure economic performance and political performance nor quantify the need for active labour market policies such as upskilling, job search assistance or subsidised job placement.
- The survey captures wider measures such as underemployed (part-time workers who want more hours or a full-time role) and jobless, which is officially unemployed (unemployed and actively looking for work) plus those who want work (but may not be available immediately or may not be looking actively). It is important to use the conceptually appropriate metric for intended use.
- Sampling errors are larger in ethnic groups (in particular Māori), industries and regions. We sometimes observe diverging trends in the HLFS compared to employment estimates from the tax system and comprehensive but less-timely data sources such as the Linked Employer-Employee Dataset (which is not a survey, as it covers all employed and self-employed taxpayers). For example, the HLFS found employment in the South Island grew by 1.9% in 2020, while the administrative data found a 0.5% decline.
- The sampling errors become larger when seen in more granular detail. For example, Māori unemployed was estimated at 4,000 for the South Island. The 95% confidence interval is 0 to 8,000. For context, nearly 9,000 Māori were on the Jobseeker Support. The officially unemployed fell by 900 in 2020, but the number on Jobseeker Support rose by 2,500.

The HLFS is useful, but headline measures such as the unemployment rate are used in incorrect contexts. Large sampling error bands for regional and ethnicity data mean that the survey should not be relied on exclusively. Wider measures suggest there is greater need and opportunity to deliver active labour market policies to Māori in the South Island.

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1. Introduction

Te Pūtahitanga o Te Waipounamu commissioned Sense Partners to reconcile rapidly rising Jobseeker Support recipients and demand for welfare services against official statistics showing a decline in the Māori unemployment rate in Te Waipounamu (the South Island).

The official unemployment rate is a measure of *ready labour supply* (those unemployed who are actively looking for and ready to work), based on a representative sample of households. The conceptual basis of what is being measured and sampling errors can both lead to misinterpretation.

A relevant metric for Te Pūtahitanga o Te Waipounamu would accurately identify, and size resources needed in welfare support (through safety nets) and investment (through skills upgrading, job search support, subsidised job placements and other active labour market policies) to improve short-term and long-term labour market outcomes.

2. The HLFS is good but not perfect

The Household Labour Force Survey (HLFS) is the internationally comparable measure of labour market trends. This is because the concepts are internationally agreed. The measures it reports are designed to better understand specific aspects of the labour market.

There are two key issues of relevance:

- Conceptual: The unemployment rate is often used as a good barometer of economic and political performance as well as the need for policy interventions such as welfare safety nets and active labour market policies to upskill and place people into employment, but it is not designed for all those purposes.
- Measurement: The survey is subject to sampling errors, and for changes in unemployment and other measures, particularly for more detailed groups, such as Māori in Te Waipounamu, the sampling error is nearly 50%.

2.1. Concepts and implications

The unemployment rate is the most used metric. It is considered a good barometer of labour market health. In turn, this is used as a signal of economic and political performance.

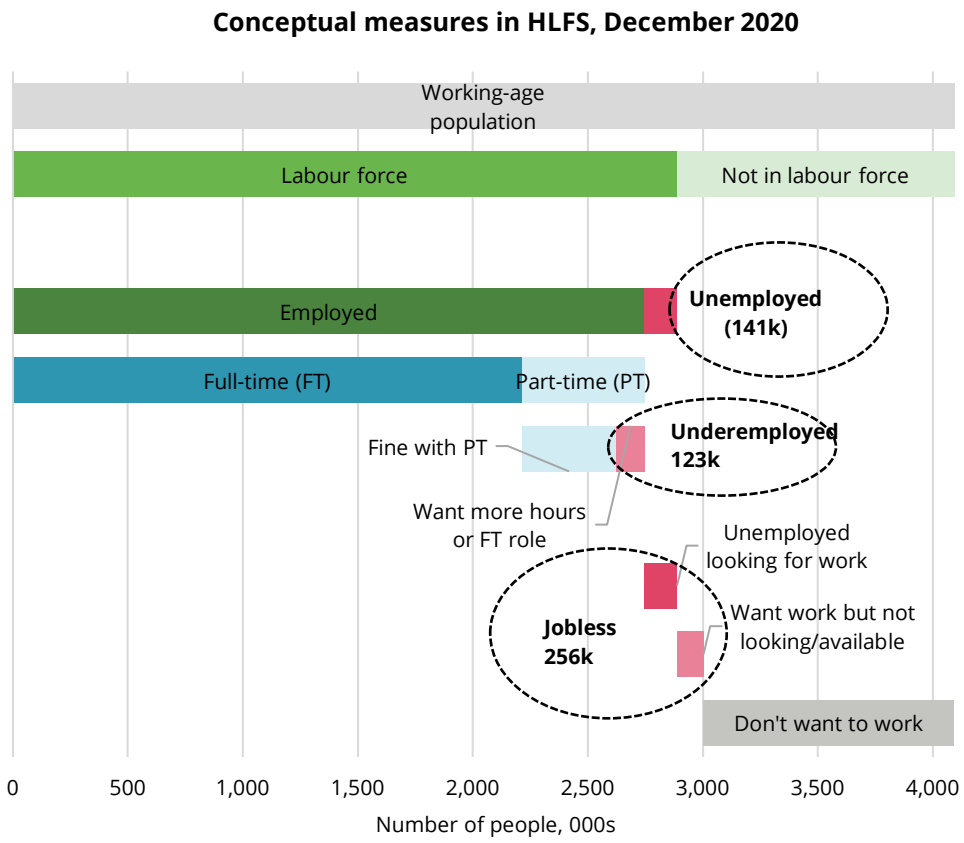
However, the unemployment rate is not designed for that purpose. It is designed to measure labour supply: the pool of readily available workers who are actively looking for work.

A change in the unemployment rate does not necessarily equate to a change in employment or vice versa.

Unemployed does not mean all jobless, as the latter includes those who want work but were not available to work or had not actively looked for a job in the week of the survey.

Unemployed will not capture part-time workers who want more hours or those who want to work full-time – they are the underemployed.

FIGURE 1: UNEMPLOYED, UNDEREMPLOYED, JOBLESS AND OTHER JARGON



Source: Statistics NZ, Sense Partners

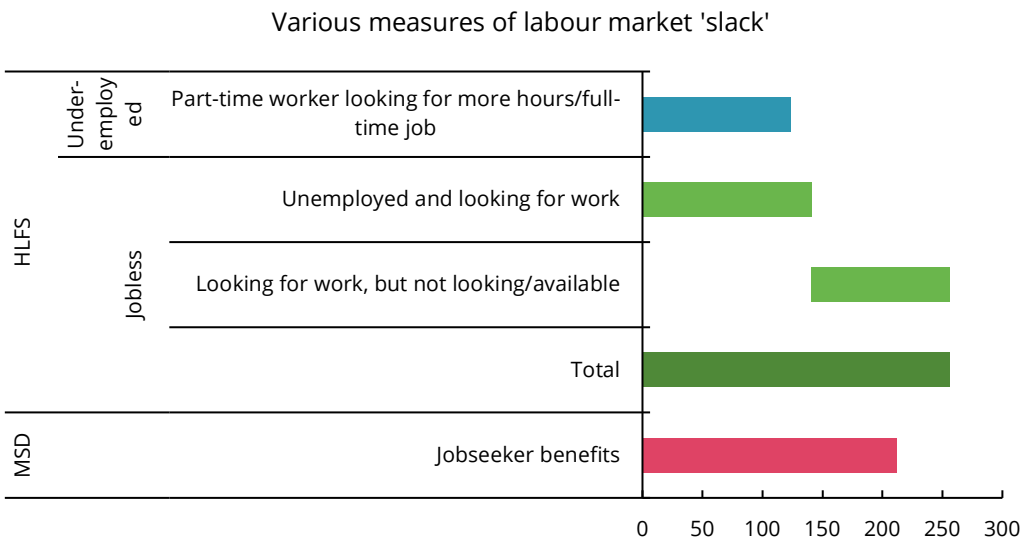
The definition of unemployed is narrow:

"A person is officially unemployed if, during the week they are surveyed, they did not have a paid job, were available for work, had been actively looking for work in the previous four weeks, or had a new job to start within four weeks. Registered unemployed are people registered as job seekers at Work and Income New Zealand offices."

Unemployed, jobless, and underemployed are useful conceptual measures (Figure 1):

- **Unemployed:** There were around 141,000 officially unemployed in the December 2020 quarter.
- **Jobless:** There were 141,000 officially unemployed and another 115,000 who want work but were not available to work that week or had not looked actively, so there were 256,000 jobless. For context, there were 212,000 on the Jobseeker Support, but not all who lose jobs can access the Jobseeker Support, which is subject to family income and other tests.
- **Underemployed:** Around 123,000 part-time workers wanted more hours or wanted a full-time role.

FIGURE 2: EACH MEASURE OF 'OUT OF WORK' HAS ITS STRENGTHS AND WEAKNESSES



Source: Statistics NZ, MSD, Sense Partners

These conceptual differences mean that there are different measures for different uses:

- For a **business** looking to fill a vacancy today, the unemployed group is of most interest as they are available to start work and are looking actively.
- For **public policy**, we want to reduce the economic and social costs of being out of work or being underutilised/underemployed. That means we would focus our energy on investing in upskilling and job placement for the jobless and underemployed groups. While the number of unemployed was 141,000 in December 2020, the pool of people we want to use public policy for is a much larger group (380,000) – the jobless (256,000) and underemployed (123,000).

2.2. Sampling errors and implications

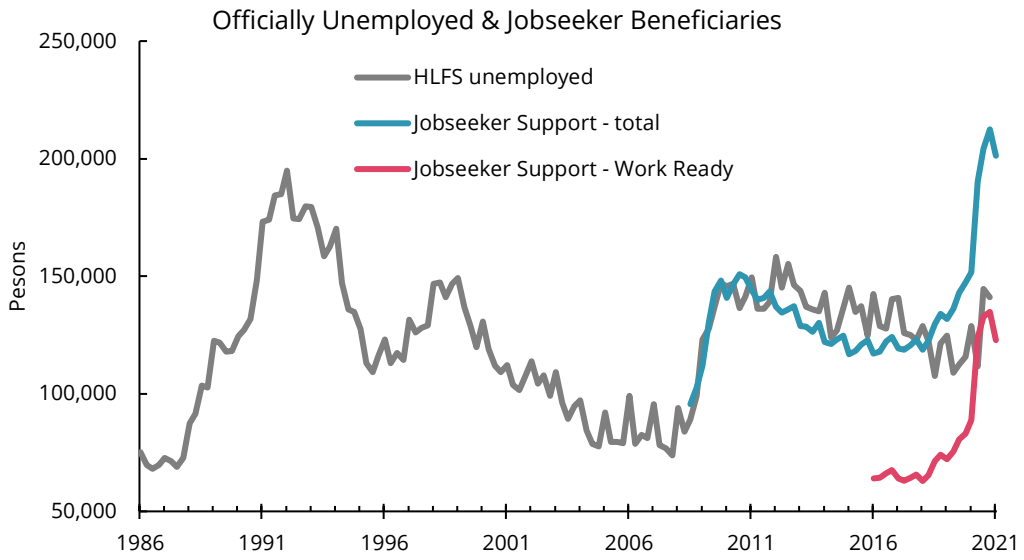
The HLFS measures the number of people employed and unemployed and a range of other questions through a survey of households. Surveys are subject to sampling errors. Many of the headline measures can show different patterns and trends compared to other data sources.

This means we need to interpret the survey results in the context of sampling errors and take a careful look at other data sources to corroborate those trends. Results are seldom placed in this context.

Some of the differences in trends are because of design differences (some administrative surveys of employed do not cover agriculture, for example), and others are due to sampling or other errors. There are also good reasons to interpret the HLFS results with caution, as sometimes the trends appear contradictory to several other data sources but within the error bands of estimates – that is, the other data may plausibly be correct.

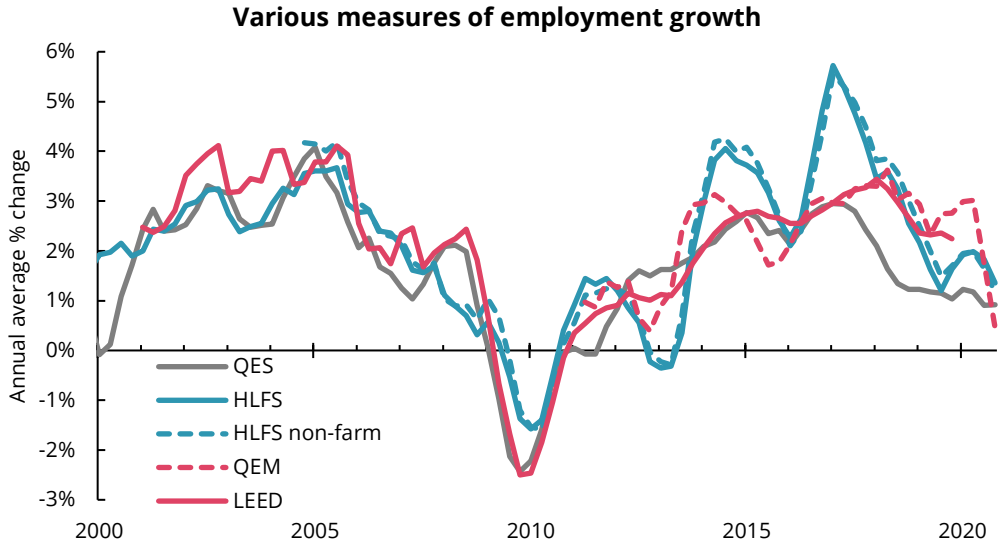
The number of unemployed closely tracked the number of people on the Jobseeker Support until 2017. From 2018, the two diverged and even more sharply once the COVID-19 pandemic hit. Jobseeker Support numbers have surged much higher than the number of officially unemployed. The divergence could be due to changes in the way Jobseeker Support is administered and/or some unemployed becoming disengaged but remaining on the Jobseeker Support.

FIGURE 3: OFFICIALLY UNEMPLOYED AND THE NUMBER OF PEOPLE ON JOBSEEKER SUPPORT HAS DIVERGED SIGNIFICANTLY



Source: Statistics NZ, MSD, Sense Partners

FIGURE 4: DIFFERENT MEASURES OF EMPLOYMENT CAN DIVERGE



Source: Statistics NZ, Sense Partners

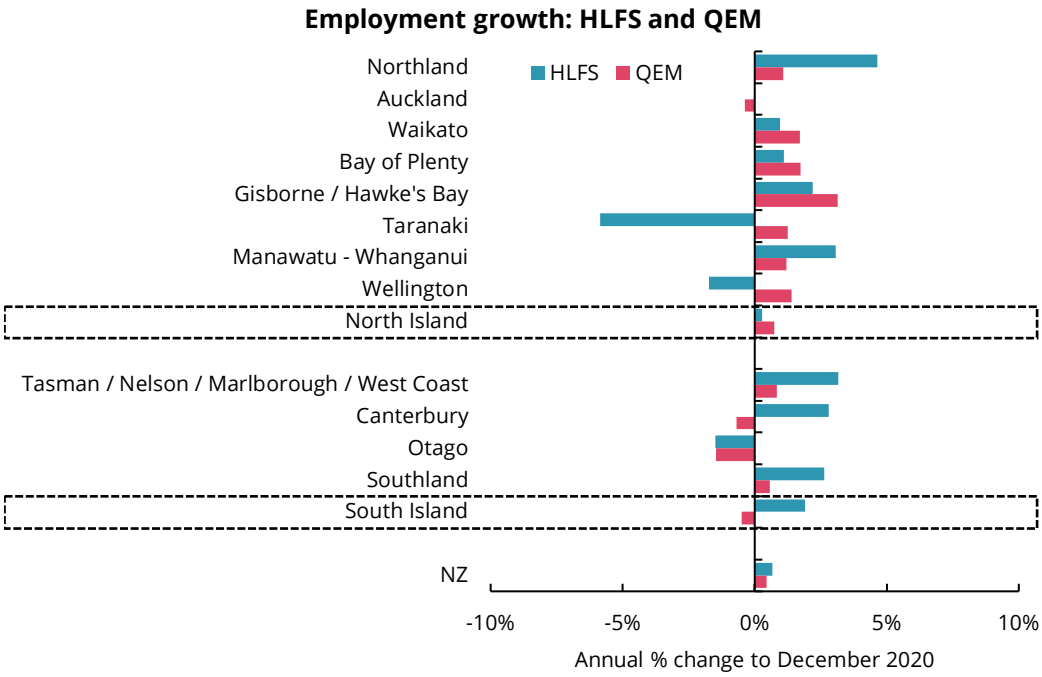
While unemployment measures above are conceptually different, employment measures are similar. The Linked Employer-Employee Database (LEED) is the most comprehensive as it covers all taxpayers including self-employed, which is not covered in the more frequent business surveys and tax-based data (as self-employed do not file tax returns as frequently as employees).

Figure 4 plots the change in various employment measures:

- The HLFS recorded smaller job losses in the previous recession than the LEED, induced by the Global Financial Crisis.
- The recovery was more jagged compared to the LEED, suggesting that variation is an artefact of the survey rather than what was happening in the economy.
- Between 2013 and 2018, the HLFS overestimated the growth in employment.
- The HLFS appears to have understated employment growth in 2019 but perhaps understated the impact of the pandemic in 2020.

Figure 5 shows the administrative measure of employment growth against the HLFS. It suggests sampling errors may be overstating or understating employment change without a clear pattern. For example, employment growth direction is reversed for the South Island – up in the HLFS.

FIGURE 5: THE SURVEY TENDS TO DIVERGE FROM ADMINISTRATIVE DATA IN SMALLER REGIONS – FOR THE SOUTH ISLAND, THIS COULD MEAN DECLINE IN JOBS VS REPORTED GROWTH.



Source: Statistics NZ, Sense Partners

2.3. Sampling errors in ethnicity by regional data

The HLFS is designed to be representative at the national level. While Statistics NZ helpfully publishes both regional and ethnicity data, it is subject to much wider error bands and volatility due largely to much smaller sample sizes.

The HLFS estimates population level measures from a sample of around 30,000 people (out of a population of 5 million) meaning the published data has an error margin around it. When we get to regions and ethnicity, the sample sizes become very small and sampling errors very large.

For example, the sampling error for the number of unemployed Māori in the South Island is close to 50% meaning there is a 68% chance (or 68% confidence interval) that the true level of unemployed may be ±50% of the published figure. At the 95% confidence interval, the range is ±100% – that is, it could be zero or double.

FIGURE 6: SAMPLING ERRORS ARE LARGE WHEN WE LOOK AT BOTH REGION AND ETHNICITY, AS SAMPLE SIZES BECOME VERY SMALL

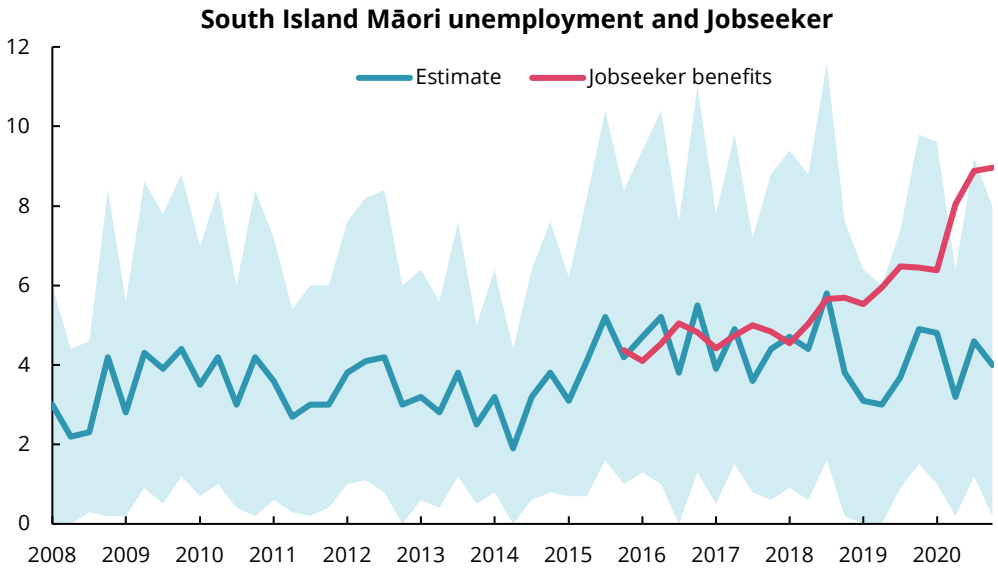
Source: Statistics NZ, Sense Partners

There were 4,000 Māori unemployed in the South Island in the HLFS. The 95% confidence interval is 0–8,000, shown in Figure 7 (all available regional breakdowns are shown in Appendix A). The number of Māori on the Jobseeker Support was nearly 9,000. In 2020, the number of officially unemployed fell by around 900 people. The number of people on the Jobseeker Support rose by nearly 2,500.

We also cross-check employment changes in the HLFS against an industry propensity measure. We know which industries Māori work in from the 2018 Census (see tables in Appendix B). We apply the change in employment by industry and region in the HLFS to the Māori employment industry mix.

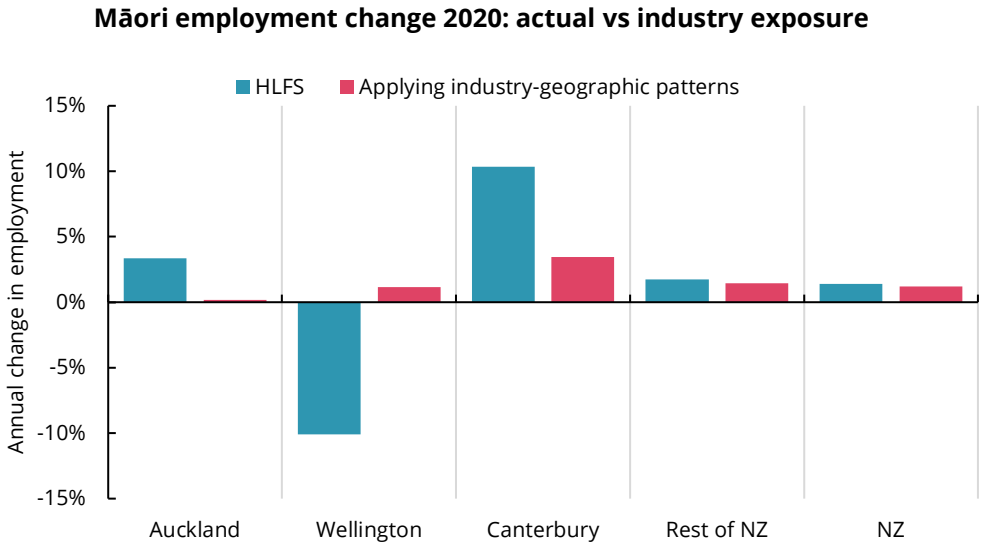
For example, if Māori are more likely to be employed in hospitality and the hospitality industry has experienced major declines, we would expect Māori to be disproportionately affected. We found the national estimates to be consistent, but regional estimates were much more variable. This suggests the sampling errors are too large when ethnicity data is looked at a regional level – the size and direction of changes may be misstated.

FIGURE 7: PUBLISHED MĀORI UNEMPLOYED HAS A WIDE ERROR BAND AROUND IT



Source: Statistics NZ, Sense Partners

FIGURE 8: PUBLISHED REGIONAL MĀORI EMPLOYMENT ESTIMATES DIVERGE FROM WHAT WE WOULD EXPECT



Source: Statistics NZ, Sense Partners

3. Using datasets suitable for policy decisions

The unemployment rate is implicitly used to measure a lot of different things – the health of the labour market, the health of the economy, the performance of the government and the need for policy interventions to moderate the impact of joblessness.

However, the unemployment rate is being unfairly asked to do too much heavy lifting. It is not conceptually up to every task. Instead, there are different measures even within the HLFS that are better suited to various purposes.

Sampling errors in the survey mean it should not be relied on to frame economic and policy discussions for granular issues such as regional Māori employment. While the sampling errors are transparently published by Statistics NZ, they are not often used. Rather, the data is typically used as point estimates, which give a false sense of accuracy.

Diverging directions and magnitudes in employment and unemployment metrics in the HLFS and comparators, but generally within the 95% confidence interval, mean we should take a more circumspect and holistic approach to identifying likely trends in employment and unemployment.

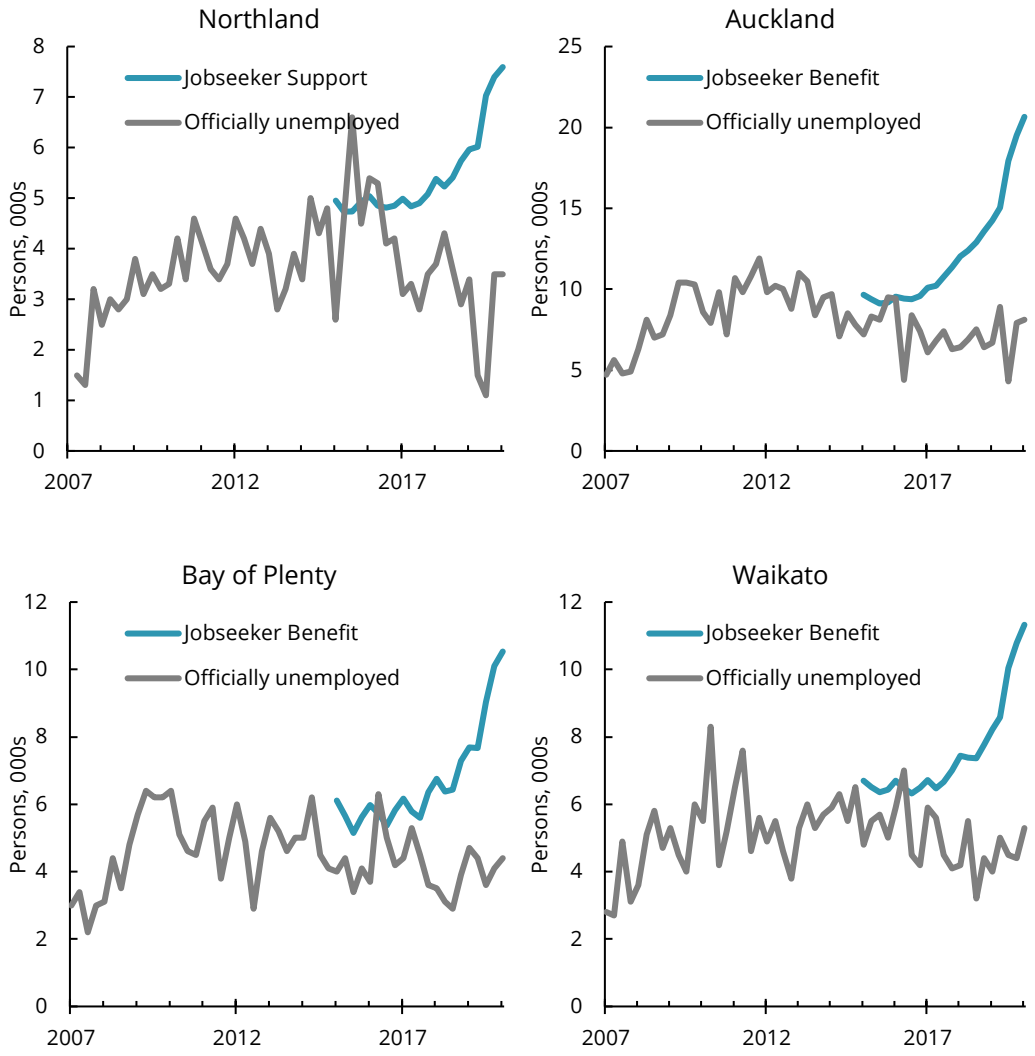
A suggested approach would be to complement the HLFS estimates with two other datasets to cross-check the published data:

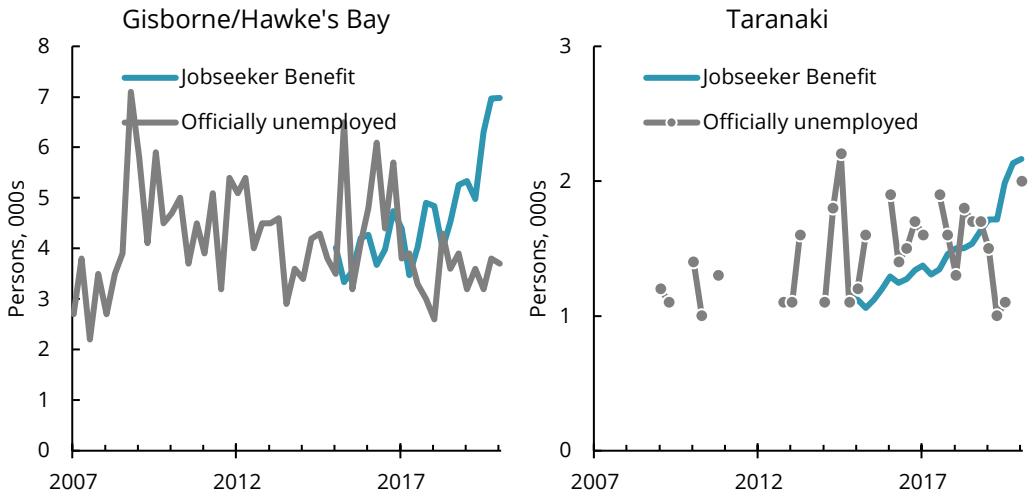
- Jobseeker Support.
- Industry propensity employment changes.

For Māori in Te Waipounamu, it would mean painting a different picture of 2020. Employment was harder hit and joblessness rose rather than fell. It would focus greater energy on policy responses, both through immediate welfare response and longer term through active labour market policies to upskill and secure jobs.

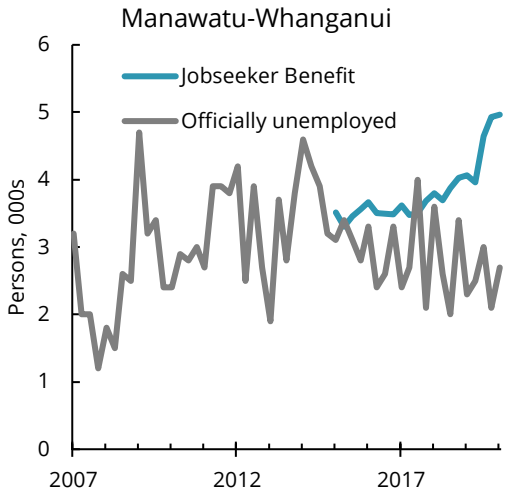
Appendix A – Officially unemployed and Jobseeker Support by regional council for Māori

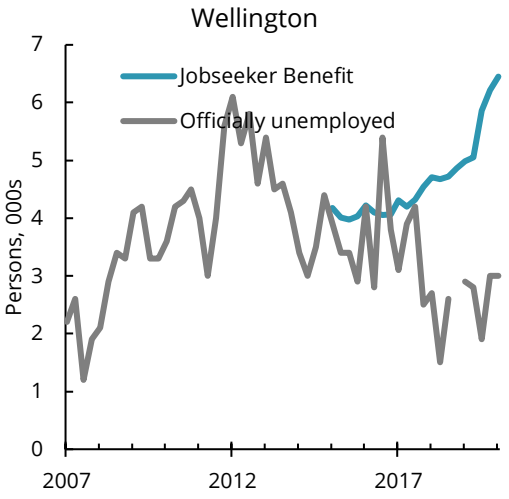
FIGURE 9: JOBSEEKER SUPPORT NUMBERS HAVE TRENDED HIGHER, WHILE OFFICIAL UNEMPLOYMENT HASN'T

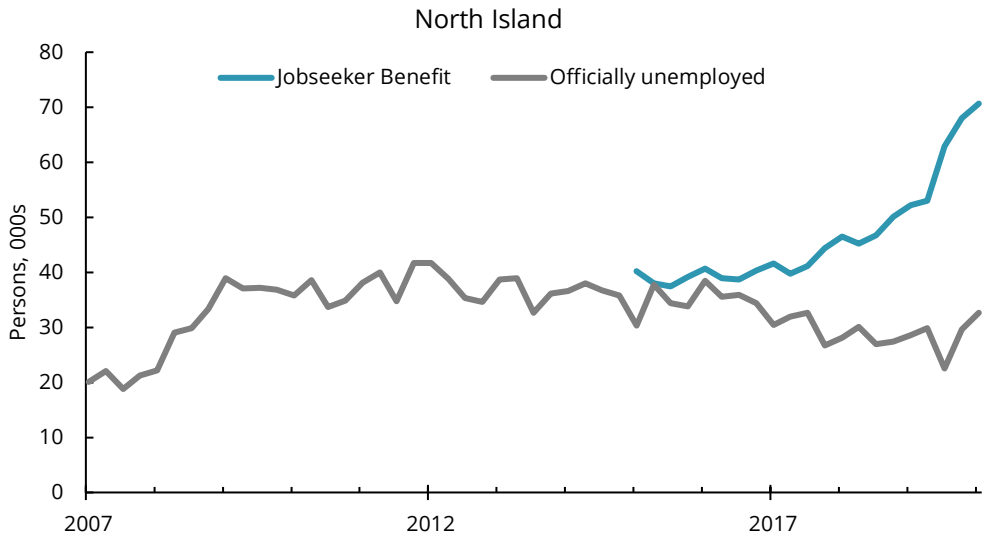


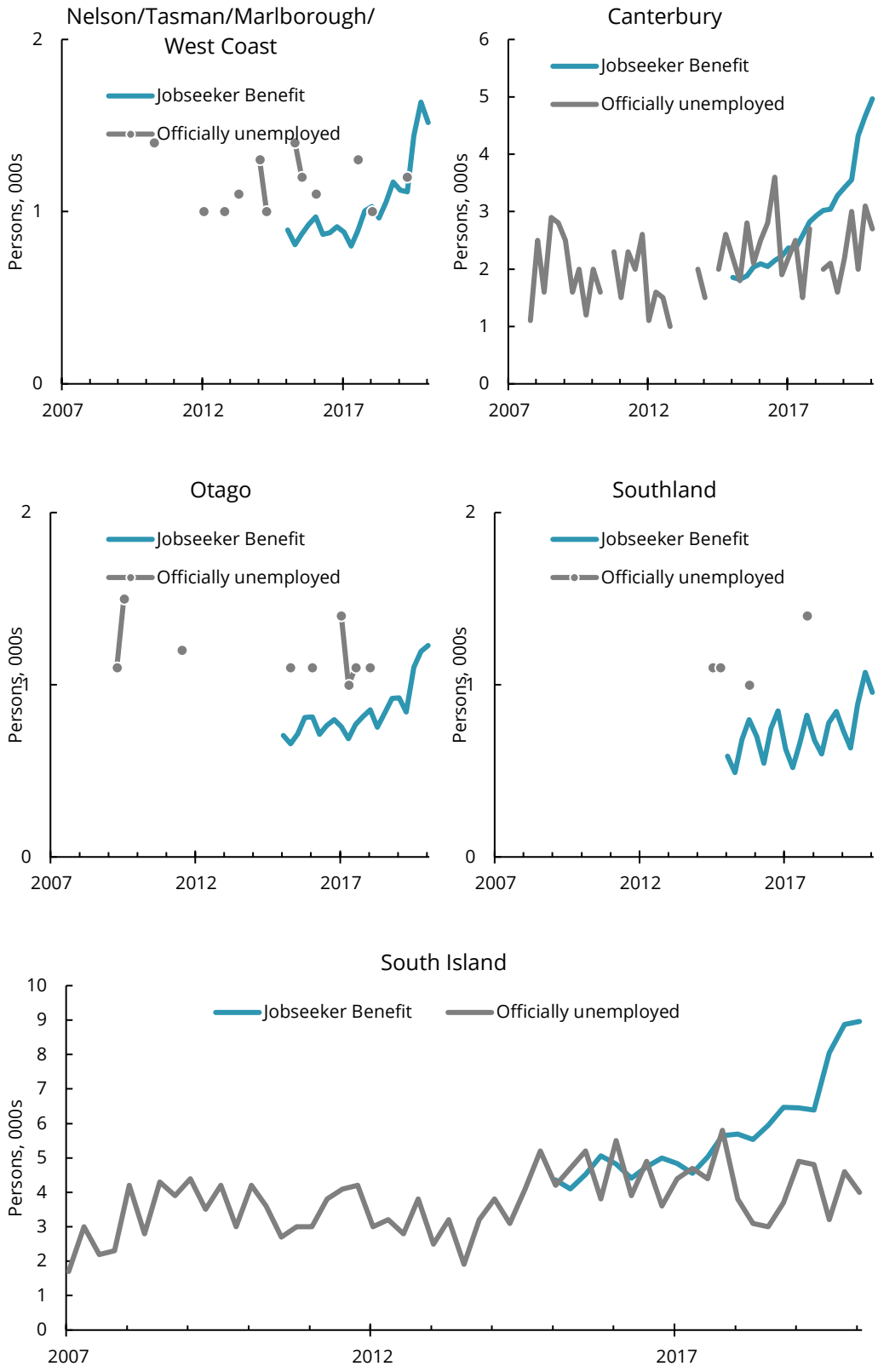

Gisborne/Hawke's Bay
Jobseeker Benefit
Officially unemployed
Persons, 000s
0
1
2
3
4
5
6
7
8
2007
2012
2017

Taranaki
Jobseeker Benefit
Officially unemployed
Persons, 000s
0
1
2
3
2007
2012
2017


Manawatu-Whanganui
Jobseeker Benefit
Officially unemployed
Persons, 000s
0
1
2
3
4
5
6
2007
2012
2017


Wellington
Jobseeker Benefit
Officially unemployed
Persons, 000s
0
1
2
3
4
5
6
7
2007
2012
2017


North Island
Jobseeker Benefit
Officially unemployed
Persons, 000s
0
10
20
30
40
50
60
70
80
2007
2012
2017



Source: Statistics NZ, MSD, Sense Partners

Appendix B – Māori employment by regional council and industry, 20018

FIGURE 10: CENSUS 2018 COUNT OF MĀORI EMPLOYMENT BY REGION AND INDUSTRY

Māori employment, Census 2018	Northland	Auckland	Waikato	Bay of Plenty	Gisborne	Hawke's Bay	Taranaki	Manawatu-Whanganui	Wellington	**North Island**	Tasman	Nelson	Marlborough	West Coast	Canterbury	Otago	Southland	Area Outside	**South Island**	**Total**
Agriculture, Forestry and Fishing	2,532	840	3,558	3,252	2,046	2,550	726	2,118	759	**18,381**	384	183	465	162	1,218	768	1,023	69	**4,272**	**22,650**
Mining	72	105	318	93	12	27	135	42	24	**828**	3	3	6	42	21	84	27	0	**186**	**1,017**
Manufacturing	2,298	7,368	6,336	4,041	1,218	3,381	2,079	3,195	2,139	**32,055**	264	273	429	252	2,925	837	1,284	18	**6,282**	**38,355**
Electricity, Gas, Water and Waste Services	264	741	498	258	39	129	57	183	309	**2,478**	12	9	18	21	225	78	30	0	**393**	**2,877**
Construction	2,469	9,996	4,995	3,588	642	1,320	957	1,611	3,861	**29,439**	192	216	327	144	3,855	1,011	540	6	**6,291**	**35,736**
Wholesale Trade	540	4,755	1,326	1,020	219	579	204	816	936	**10,395**	69	126	60	30	1,104	327	393	9	**2,118**	**12,525**
Retail Trade	2,181	6,228	3,786	3,084	660	1,305	729	1,836	2,781	**22,590**	216	264	255	147	2,409	876	549	0	**4,716**	**27,306**
Accommodation & Food services	1,914	4,278	3,423	2,739	522	1,146	612	1,557	2,421	**18,612**	144	213	297	234	1,836	912	486	21	**4,143**	**22,749**
Transport, Postal and Warehousing	1,155	5,985	1,905	2,061	537	768	405	948	1,485	**15,249**	84	135	147	57	1,362	360	300	6	**2,451**	**17,712**
Information Media and Telecommunications	108	1,536	345	237	102	81	48	105	597	**3,159**	3	9	18	15	231	81	33	0	**390**	**3,546**
Financial and Insurance Services	264	1,791	429	402	72	405	102	237	900	**4,602**	24	45	33	18	432	96	87	0	**735**	**5,325**
Rental, Hiring and Real Estate Services	363	1,467	603	486	132	222	81	231	426	**4,011**	24	36	48	21	381	129	54	0	**693**	**4,704**
Professional, Scientific, Technical services	903	6,051	2,382	1,749	414	828	468	873	2,673	**16,341**	108	150	96	51	1,638	492	228	12	**2,775**	**19,119**
Administrative and Support Services	1,176	4,986	2,388	2,883	690	1,455	405	897	1,893	**16,773**	105	165	159	75	1,425	402	183	12	**2,526**	**19,296**
Public Administration and Safety	1,410	4,371	2,325	1,611	420	846	315	1,914	4,038	**17,250**	60	81	135	66	1,329	351	237	15	**2,274**	**19,515**
Education and Training	2,418	6,591	4,032	3,774	1,131	1,569	723	2,196	2,703	**25,137**	147	189	159	96	1,674	768	447	15	**3,495**	**28,623**
Health Care and Social Assistance	2,952	6,234	4,122	3,711	1,146	1,539	873	2,391	2,898	**25,866**	171	246	252	150	1,923	759	489	6	**3,996**	**29,856**
Arts and Recreation	372	1,893	924	882	99	237	111	318	744	**5,580**	39	39	36	45	447	210	99	0	**915**	**6,498**
Other Services	942	2,847	1,485	1,512	288	504	318	705	1,176	**9,777**	84	93	105	42	1,053	369	228	6	**1,980**	**11,757**
Total All Industries	**24,333**	**78,063**	**45,180**	**37,383**	**10,389**	**18,891**	**9,348**	**22,173**	**32,763**	**278,523**	**2,133**	**2,475**	**3,045**	**1,668**	**25,488**	**8,910**	**6,717**	**195**	**50,631**	**329,166**

FIGURE 11: SHARE OF REGIONAL MĀORI EMPLOYMENT BY INDUSTRY

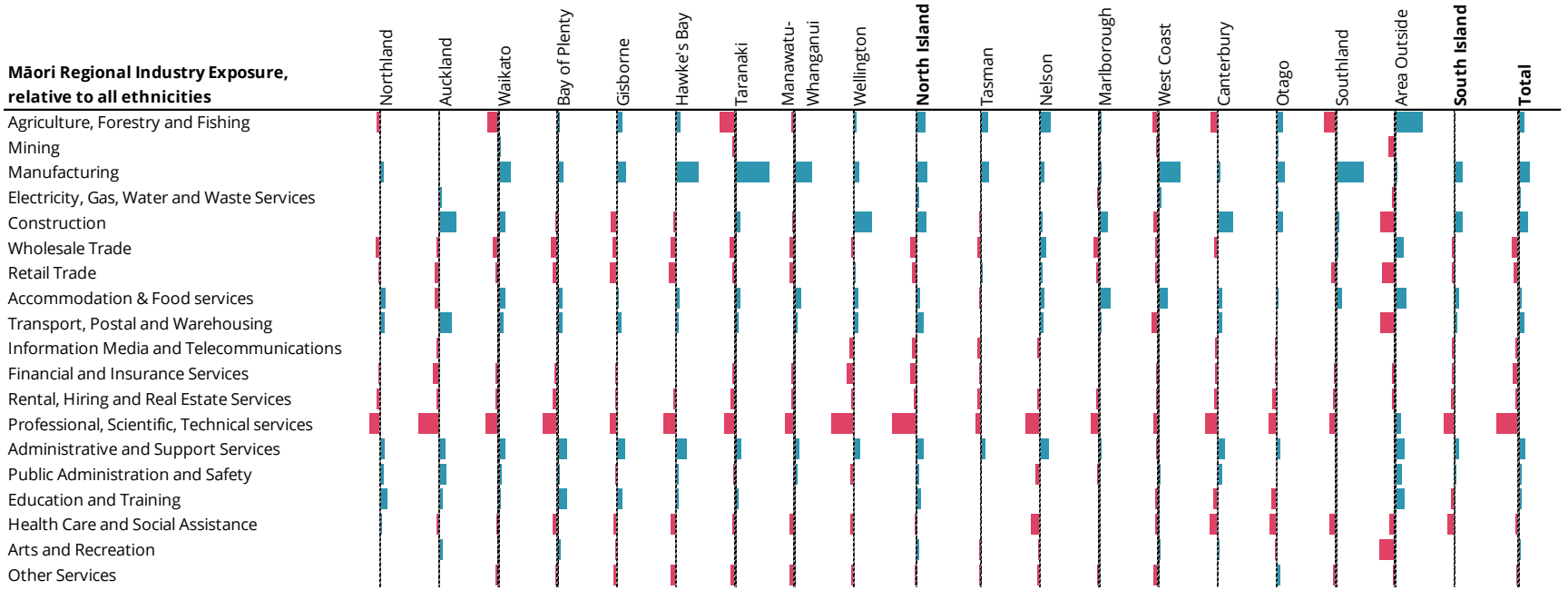
This shows the share of regional employment in each industry. For example, 8% of Māori employment in the South Island is in the Agriculture, Forestry and Fishing sector.

Māori Regional Industry Exposure	Northland	Auckland	Waikato	Bay of Plenty	Gisborne	Hawke's Bay	Taranaki	Manawatu-Whanganui	Wellington	**North Island**	Tasman	Nelson	Marlborough	West Coast	Canterbury	Otago	Southland	Area Outside	**South Island**	**Total**
Agriculture, Forestry and Fishing	10%	1%	8%	9%	20%	13%	8%	10%	2%	**7%**	18%	7%	15%	10%	5%	9%	15%	35%	**8%**	**7%**
Mining	0%	0%	1%	0%	0%	0%	1%	0%	0%	**0%**	0%	0%	0%	3%	0%	1%	0%	0%	**0%**	**0%**
Manufacturing	9%	9%	14%	11%	12%	18%	22%	14%	7%	**12%**	12%	11%	14%	15%	11%	9%	19%	9%	**12%**	**12%**
Electricity, Gas, Water and Waste Services	1%	1%	1%	1%	0%	1%	1%	1%	1%	**1%**	1%	0%	1%	1%	1%	1%	0%	0%	**1%**	**1%**
Construction	10%	13%	11%	10%	6%	7%	10%	7%	12%	**11%**	9%	9%	11%	9%	15%	11%	8%	3%	**12%**	**11%**
Wholesale Trade	2%	6%	3%	3%	2%	3%	2%	4%	3%	**4%**	3%	5%	2%	2%	4%	4%	6%	5%	**4%**	**4%**
Retail Trade	9%	8%	8%	8%	6%	7%	8%	8%	8%	**8%**	10%	11%	8%	9%	9%	10%	8%	0%	**9%**	**8%**
Accommodation & Food services	8%	5%	8%	7%	5%	6%	7%	7%	7%	**7%**	7%	9%	10%	14%	7%	10%	7%	11%	**8%**	**7%**
Transport, Postal and Warehousing	5%	8%	4%	6%	5%	4%	4%	4%	5%	**5%**	4%	5%	5%	3%	5%	4%	4%	3%	**5%**	**5%**
Information Media and Telecommunications	0%	2%	1%	1%	1%	0%	1%	0%	2%	**1%**	0%	0%	1%	1%	1%	1%	0%	0%	**1%**	**1%**
Financial and Insurance Services	1%	2%	1%	1%	1%	2%	1%	1%	3%	**2%**	1%	2%	1%	1%	2%	1%	1%	0%	**1%**	**2%**
Rental, Hiring and Real Estate Services	1%	2%	1%	1%	1%	1%	1%	1%	1%	**1%**	1%	1%	2%	1%	1%	1%	1%	0%	**1%**	**1%**
Professional, Scientific, Technical services	4%	8%	5%	5%	4%	4%	5%	4%	8%	**6%**	5%	6%	3%	3%	6%	6%	3%	6%	**5%**	**6%**
Administrative and Support Services	5%	6%	5%	8%	7%	8%	4%	4%	6%	**6%**	5%	7%	5%	4%	6%	5%	3%	6%	**5%**	**6%**
Public Administration and Safety	6%	6%	5%	4%	4%	4%	3%	9%	12%	**6%**	3%	3%	4%	4%	5%	4%	4%	8%	**4%**	**6%**
Education and Training	10%	8%	9%	10%	11%	8%	8%	10%	8%	**9%**	7%	8%	5%	6%	7%	9%	7%	8%	**7%**	**9%**
Health Care and Social Assistance	12%	8%	9%	10%	11%	8%	9%	11%	9%	**9%**	8%	10%	8%	9%	8%	9%	7%	3%	**8%**	**9%**
Arts and Recreation	2%	2%	2%	2%	1%	1%	1%	1%	2%	**2%**	2%	2%	1%	3%	2%	2%	1%	0%	**2%**	**2%**
Other Services	4%	4%	3%	4%	3%	3%	3%	3%	4%	**4%**	4%	4%	3%	3%	4%	4%	3%	3%	**4%**	**4%**

FIGURE 12: MĀORI REGIONAL EMPLOYMENT EXPOSURE BY INDUSTRY, RELATIVE TO ALL ETHNICITIES

This shows over-representation and under-representation of Māori employment relative to all ethnicities in a region. For example, the blue bars in the South Island show the industries Māori are over-represented in (Manufacturing, Construction, Accommodation and Food Services), and the red bars show under-representation (Professional, Scientific, Technical Services and Rental, Hiring and Real Estate Services).

This helps us understand the potentially asymmetric impact on Māori of a reduction in the Accommodation and Food Services sector, for example, because a larger share of Māori work in these sectors than other ethnicities.



SENSE PARTNERS

DATA LOGIC ACTION